

Application Serial No. 10/560,441  
Amendment Dated March 8, 2011  
Reply to Office Action of December 8, 2011

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Previously Presented) An oral appliance for placing in the mouth of a user, the appliance including:

a substantially rigid plastic base member that is not user conformable or mouldable in boiling water, the base member having a generally U-shaped form corresponding to the outline of a jaw of a user, at least one channel defined by a substantially rigid inner flange, a substantially rigid outer flange and a web connecting the flanges within which an upper or lower row of teeth of a user can be received, the substantially rigid inner flange, the substantially rigid outer flange and the web being of a rigid plastic material that is not user conformable or mouldable in boiling water; and

a teeth engaging element, encapsulating each channel, being made of a material able to be user conformed or user moulded to suit the individual mouth of the user wherein the base member has a greater rigidity than the teeth engaging element;;

the base member further including one or more compressible shock absorption channels defined in or near terminal ends of the base member, and which extend through a posterior outer face to a posterior inner face of the base member to substantially absorb impact shock.

2. – 5. (Cancelled).

6. (Previously Presented) Oral appliance according to Claim 1 wherein the compressible shock absorption channels comprise open air channels defined in the base member.

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7. (Currently Amended) Oral appliance according to claim 1 wherein the compressible shock absorption channels extend from an opening in an outer labial face of the base member, through the ~~body thereof foral~~ appliance to an opening in an inner lingual face of the base member.

8. (Previously Presented) Oral appliance according to claim 7 wherein the compressible shock absorption channels comprise side open channels arranged in or near terminal ends of the generally U shaped form of the base member.

9. (Original) Oral appliance according to claim 8, further including at least one frontal open channel arranged in a front section of the base member.

10. (Original) Oral appliance according to claim 8 wherein the side open channels have a height in the range of 0.5-10mm and length lying in the range of 0.5-30mm.

11. (Original) Oral appliance according to claim 10 wherein the side open channels that are positioned proximate to the terminal ends of the generally U shaped form of the base member have a length lying in the range 10-20mm.

12. (Original) Oral appliance according to claim 9 wherein the frontal open channel of the base member has a length lying in the range 2-10mm.

13. (Previously Presented) Oral appliance according to claim 1 wherein the teeth engaging element is made of a continuous layer of thermoplastic material that encapsulates the base member to firmly and securely mount the layer of thermoplastic material on the base member.

14. (Original) Oral appliance according to claim 13 wherein the continuous layer of thermoplastics material substantially covers the complete surface area of the base member.

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15. (Currently Amended) Oral appliance according to claim 13 wherein the layer of thermoplastic material defines one or more openings which correspond with at least one ~~or more~~ of the open-at least one channels arranged in the base member.

16. (Currently Amended) Oral appliance according to claim 13 wherein the layer of thermoplastic material extends across and covers the one or more openings which correspond with the at least one ~~or more~~-channels arranged in the base member and closes off ~~the-an~~ interior space defined by the at least one channels.

17. (Original) Oral appliance according to claim 13 wherein the layer of thermoplastic material is EVA (ethylvinylacetate) which softens at a temperature of 90°C – 95°C.

18. (Original) Oral appliance according to claim 13 wherein the layer of thermoplastic material forming the teeth engaging elements has a thickness of 1mm – 3mm.

19. (Cancelled).

20. (Previously Presented) Oral appliance according to claim 1 wherein the rigid plastics material comprises a non-thermoplastic material either alone or in combination with another plastics material.

21. (Original) Oral appliance according to claim 20 wherein the non-thermoplastic material comprises polyethylene, polyurethane, polypropylene or santoprene.

22. (Original) Oral appliance according to claim 20 wherein the other plastics material is a thermoplastic material and the thermoplastic material is 10% or less by weight of the base member.

23. (Original) Oral appliance according to claim 22 wherein the base member comprises 3-8% by weight of thermoplastic material that is EVA and the balance is polyethylene.

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24. (Original) Oral appliance according to claim 22 wherein the base member comprises 4-6% by weight of thermoplastic material that is EVA and the balance is polyethylene.

25. (Original) Oral appliance according to claim 21 wherein the non-thermoplastic material comprises polyethylene on its own.

26. (Original) Oral appliance according to claim 1 wherein the base member has inner and outer flanges interconnected by a web which collectively define upper and lower channels within which the upper and lower rows of teeth of the user are receivable, wherein an upper teeth engaging element is receivable in the upper channel and a lower teeth engaging element is receivable in the lower channel.

27. (Original) Oral appliance according to claim 1 further including a tongue tag on the inner flange of the base member, the tongue tag being substantially centrally positioned for correctly positioning the tongue of a user during use, and a cut-out defined in the outer flange of the base member for allowing the appliance to adapt to varying arch sizes, and breathing apertures defined in the base member for facilitating breathing by a user when wearing the appliance.

28. (Original) Oral appliance according to claim 1 further including locating means for correctly locating and positioning the jaws in the teeth engaging element during fitting of the oral appliance.

29. (Original) Oral appliance according to claim 28 wherein the locating means comprise a brace arranged externally on the teeth engaging element.

30. (Original) Oral appliance according to claim 28 wherein the brace comprises rubber.

31. – 39. (Cancelled).

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40. (Previously Presented) A base member for an oral appliance for placing in a mouth of a user, the base member being of a rigid plastics material that is not user conformable or mouldable in boiling water, the base member having a generally U-shaped form corresponding to the outline of a jaw of a user, the base member comprising at least one channel defined by a substantially rigid inner flange, a substantially rigid outer flange and a web connecting the flanges, within which an upper or lower row of teeth of a user can be received, the substantially rigid inner flange, the substantially rigid outer flange and the web being of a rigid plastic material that is not user conformable or mouldable in boiling water, the base member further comprising shock absorption means taking the form of pre-designated compressible sections in order to substantially absorb shock.

41. (Cancelled).

42. (Previously Presented) A base member according to claim 40 being at least semi-flexible and non-thermoplastic.

43. (Currently Amended) A moldable teeth engaging element for co-operation with a base member according to claim 40 for an oral appliance, the base member being of a rigid plastics material that is not user conformable or mouldable in boiling water, the base member having a generally U-shaped form corresponding to the outline of a jaw of a user, the base member comprising at least one channel defined by a substantially rigid inner flange, a substantially rigid outer flange and a web connecting the flanges, within which an upper or lower row of teeth of a user can be received, the substantially rigid inner flange, the substantially rigid outer flange and the web being of a rigid plastic material that is not user conformable or mouldable in boiling water, the element being made of a material able to be user conformed or

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user molded to suit the individual mouth of the user, provided with locating means for correctly locating and positioning the jaws in the teeth engaging element.

44. (Currently Amended) A method of fitting an oral appliance, as described in claim 1 the appliance including a substantially rigid plastic base member that is not user conformable or mouldable in boiling water, the base member having a generally U-shaped form corresponding to the outline of a jaw of a user, at least one channel defined by a substantially rigid inner flange, a substantially rigid outer flange and a web connecting the flanges within which an upper or lower row of teeth of a user can be received, the substantially rigid inner flange, the substantially rigid outer flange and the web being of a rigid plastic material that is not user conformable or mouldable in boiling water, and a teeth engaging element, encapsulating each channel, being made of a material able to be user conformed or user moulded to suit the individual mouth of the user wherein the base member has a greater rigidity than the teeth engaging element, the base member further including one or more compressible shock absorption channels defined in or near terminal ends of the base member, and which extend through a posterior outer face to a posterior inner face of the base member to substantially absorb impact shock, the method comprising the step of immersing the oral appliance in water having a temperature sufficiently high to make the teeth engaging element moldable; inserting the appliance into a user's mouth; biting into the teeth engaging element to mould the teeth engaging element to the form of the user's jaw; and thereafter allowing the teeth engaging element to harden.

45. (Original) A method for protecting teeth from impact shock comprising the step of inserting an oral appliance, fitted according to claim 44, into a user's mouth before partaking of any activity whereby use of a mouthguard is desirable.

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46. (Currently Amended) A guard for placing the mouth of a user to perform a protective function, the guard including: a substantially rigid plastic base member that is not user conformable or mouldable in boiling water, the base member having a generally U-shaped form corresponding to the arch of a jaw of a user having a front region extending back via two arms to a rear end, and at least one channel defined by a substantially rigid inner flange, a substantially rigid outer flange and a web connecting the flanges within which at least one upper or lower row of teeth of a user can be received, the substantially rigid inner flange, the substantially rigid outer flange and the web being of a rigid plastic material that is not user conformable or mouldable in boiling water, a teeth engaging element received in each said channel that is made of a material that is able to be user moulded to fit the mouth of a user, the base member including a shock absorber for absorbing energy from an impact to the guard, the shock absorber comprising at least one compressible side opening defined in the substantial rigid outer labial flange of the front anterior region such that the compressible openings absorb impact shock.

47. (Currently Amended) A guard according to claim 46, wherein the guard defines only an upper said channel to fit over the upper arch of the user.

48. (Currently Amended) A guard according to claim 47, wherein the outer flange includes a downward extension or skirt that extends down from the web in a direction away from the upper channel, and the side openings are defined in the outer flangedownward extension or skirt in the outer flange or skirt below the web.

49. (Currently Amended) A guard according to claim 48, wherein the outer flange defines a front opening is also defined in the outer flange below the web.

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50. (Currently Amended) A guard according to claim 4649, wherein each of said side and front openings is elongate with the longitudinal axis of the opening being substantially parallel to the upper channel.

51. (Previously Presented) An oral appliance for placing in the mouth of a user, the appliance comprising a substantially rigid plastic base member that is not user conformable or mouldable in boiling water, the base member having a generally U-shaped form corresponding to the outline of a jaw of a user, and at least one channel defined by a substantially rigid inner flange, a substantially rigid outer flange and a web connecting the flanges, within which at least one upper or lower row of teeth of a user can be received, the substantially rigid inner flange, the substantially rigid outer flange and the web being of a rigid plastic material that is not user conformable or mouldable in boiling water, and a teeth engaging element encapsulating each channel, being made of a material able to be user conformed or user moulded to suit the individual mouth of the user wherein the base member has a greater rigidity than the teeth engaging element, wherein the rigid plastics material is polyethylene with less than 10% by weight of a thermoplastics material.

52. (New) An oral appliance for placing in the mouth of a user, the appliance including:  
a substantially rigid plastic base member that is not user conformable or mouldable in boiling water, the base member having a generally U-shaped form corresponding to the outline of a jaw of a user so as to have an outer labial face and an inner lingual face, at least one channel defined by a substantially rigid inner flange, a substantially rigid outer flange and a web connecting the flanges within which an upper or lower row of teeth of a user can be received;  
and

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a teeth engaging element encapsulating the base member that substantially covers the complete surface of area of the base member including the outer labial face to firmly and securely mount the layer of thermoplastic material on the base member, the teeth engaging element being made of a material able to be user conformed or user moulded to suit the individual mouth of the user wherein the base member has a greater rigidity than the teeth engaging element;

the base member including one or more compressible shock absorption channels defined in or near terminal ends of the base member, each channel extending from an opening in the outer labial face to an opening in the inner lingual face to define an interior space between the openings, so as to substantially absorb impact shock.

53. (New) The oral appliance of Claim 1, wherein the substantially rigid inner flange, the substantially rigid outer flange and the web are not user conformable or mouldable in boiling water in a domestic environment.

54. (New) The base member of Claim 40, wherein the substantially rigid inner flange, the substantially rigid outer flange and the web are not user conformable or mouldable in boiling water in a domestic environment.

55. (New) The moldable teeth engaging element of Claim 43, wherein the substantially rigid inner flange, the substantially rigid outer flange and the web are not user conformable or mouldable in boiling water in a domestic environment.

56. (New) The method of Claim 44, wherein the substantially rigid inner flange, the substantially rigid outer flange and the web are not user conformable or mouldable in boiling water in a domestic environment.

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57. (New) The guard of Claim 46, wherein the substantially rigid inner flange, the substantially rigid outer flange and the web are not user conformable or mouldable in boiling water in a domestic environment.

58. (New) The oral appliance of Claim 51, wherein the substantially rigid inner flange, the substantially rigid outer flange and the web are not user conformable or mouldable in boiling water in a domestic environment.

59. (New) The oral appliance of Claim 52, wherein the substantially rigid inner flange, the substantially rigid outer flange and the web are not user conformable or mouldable in boiling water in a domestic environment.